

REMARKS

Claims 1-15 are pending in the application. (In the Office Action, item 4 indicates that claims 1-20 are pending—this is an error.) Claim 1 is the sole independent claim.

In the Office Action, the Examiner:

objected to claims 3, 10, 11 and 15 as being dependent upon a rejected base claim;

rejected claims 1, 2, 4, 5 and 7-9 under 35 U.S.C. § 103(a) as being unpatentable over Nørskov (U.S. Patent No. 4,736,893) in view of Foster et al. (U.S. Patent No. 5,499,766);

rejected claims 12 and 13 as being unpatentable over Nørskov in view of Foster and further in view of Harsch (U.S. Patent No. 2,055,864); and

rejected claims 11, 12, 14 and 15 as being unpatentable over Nørskov in view of Foster and further in view of Mains (U.S. Patent No. 4,613,079).

Applicants gratefully acknowledge the Examiner's indication of allowable subject matter of claims 3, 10, 11 and 15. At this time, Applicants decline to rewrite these claims as independent claims.

Section 103 Rejections:

In the Office Action, claims 1, 2, 4, 5 and 7-9 were rejected as being unpatentable over Nørskov in view of Foster. Claim 1, which is directed to a nozzle, recites, among other things, a housing, having a nozzle opening, and a distributing insert, the distributing insert being held in the housing with the help of a deformed housing section, wherein between the housing section and the distributing insert is arranged an elastically deformable element.

Nørskov discloses an atomizing nozzle having housing 1 in which a distributor insert 13 is held in place against an orifice 5 by a retaining element 20. Retaining element 20 is formed of a sintered material. According to the Examiner,

Nørskov does not teach the insert being held in the housing with the help of a deformed housing section by a deformable element.

Foster discloses a nozzle assembly having a head section 24 adjacent the nozzle orifice 72. Nozzle orifice 72 is located in rotating cap 58. Head section 24 includes a central cylinder 42, a cylindrical sleeve 36, and an annular snap ring 30. Snap ring 30 snaps into annular groove 32 of housing 12. According to the Examiner, the cylindrical projection 42 is the distributing insert of claim 1; the annular ring (sic, groove) 32 of housing 12 is the deformed housing section; and the cylindrical sleeve 36 is the deformable element arranged between groove 32 and cylindrical projection 42. We disagree.

For a 35 U.S.C. § 103 rejection to be valid, a suggestion or motivation to combine the references must be found in one of the references. In this instance, neither of the cited references suggests or includes any motivation to combine with the other. The Examiner has asserted that it would have been obvious to modify the oil burning nozzle of Nørskov with the tension-bearing sleeve of Foster in order to minimize the risk of the distributing element allowing fluid to leak between it and the nozzle. We disagree. First, Applicants submit, as will be discussed below, that Foster is not a tension-bearing sleeve (compare FIG. 1 with FIG. 5 of Foster). Second, Nørskov is a fixed nozzle, while Foster is an adjustable spray nozzle. The nozzle of Foster does not eliminate leaks. Thus, a person of ordinary skill in the art would not be motivated to combine the nozzle of Foster with the nozzle of Nørskov in order to minimize leaks. Applicants submit that the Examiner has resorted to impermissible hindsight and has failed to establish a prima facie case for combining Nørskov with Foster.

Moreover, even if Nørskov and Foster were to be combined, the combination still does not teach what claim 1 recites. To establish a prima facie case, the references either individually or in combination must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Examiner has indicated that Nørskov does not teach the insert being held in the housing with the help of a deformed housing section by a deformable element. Foster also fails to teach the insert being held in the housing with the help of a deformed housing section by a deformable element.

First, Foster fails to disclose a housing that has both a nozzle opening and a deformed housing section as recited in claim 1. The Examiner asserts that the annular ring (sic, groove) 32 of housing 12 is acting as the deformed housing section. However, Foster teaches that cap 58, not housing 12, includes nozzle 72. Thus, housing 12 of Foster does not include both a nozzle opening and a deformed housing section. Similarly, cap 58 does not include both a nozzle opening and a deformed housing section. Thus, neither of these two components may be considered to correspond to the housing of the present invention, i.e. a housing that has both a nozzle opening and a deformed housing section. In addition, Foster teaches that cap 58 rotates and moves axially relative to housing 12. Because cap 58 and housing 12 rotate and move axially relative to one another, a person of ordinary skill in the art would not consider these components, even if combined, to be the equivalent of the housing of the present invention. Therefore, even assuming, *arguendo*, that groove 32 is a deformed section, Applicants submit that the Examiner has failed to make a *prima facie* case that Foster discloses a housing that includes both a nozzle and a deformed section as recited in claim 1.

Second, even assuming, *arguendo*, that cap 58 and housing 12, together, could be considered to be equivalent to the claimed housing, Foster fails to teach that groove 32 is a deformed housing section. Although, Foster discloses that snap ring 30 snaps into annular groove 32, Foster fails to provide any disclosure that groove 32 is deformed. Presumably, groove 32 is either a molded or a cut feature of housing 12. Thus, the Examiner has also failed to establish that cap 58 and housing 12, together, include a deformed housing section, as required by claim 1.

Third, the Examiner has indicated that cylindrical sleeve 36 is the deformable element arranged between annular ring 30/groove 32 and cylindrical projection 42. We disagree. Foster fails to disclose that cylindrical sleeve 36 is a deformable

element. Rather, Foster discloses that cylindrical sleeve slides within cap 58 (col. 4, lines 14-17). Thus, Foster discloses that cylindrical sleeve 36 is neither deformed axially or radially by cap 58. Moreover, cylindrical sleeve 36 defines, at least in part, fluid chamber 38. Thus, cylindrical sleeve 36 must be considered part of the distributing insert. Cylindrical sleeve 36 cannot both be part of the insert and also be arranged *between* the housing section and the distributing insert, as is required by claim 1 for the elastically deformable element. For all of these reasons, cylindrical sleeve 36 of Foster cannot be considered to be the elastically deformable element as disclosed in claim 1.

Because neither Nørskov nor Foster teach the insert being held in the housing with the help of a deformed housing section by a deformable element, the combination of Nørskov and Foster also fails to teach or suggest all the limitations of claim 1. In particular, neither Nørskov nor Foster disclose or suggest that an elastically deformable element is arranged between the deformed housing section and the distributing insert. Therefore, claim 1 is not rendered unpatentable in view of these two references. Claims 2, 4, 5 and 7-9 depend from claim 1, directly or indirectly, and contain additional recitations thereto. Thus, for at least the reasons discussed above, Applicants respectfully submit that these claims should be passed to issue.

In addition, with respect to claim 2, the Examiner has asserted that annular ring (sic, groove) 32 tensions the sleeve towards the nozzle opening. We disagree. Claim 2 recites that the housing section in the deformed condition tensions the distributing insert axially toward the housing. Contrary to the Examiner's assertion, annular groove 32 cannot be considered to tension the insert in the *axial* direction. At most, groove 32 applies *radially* directed forces. Indeed, FIG. 5 of Foster, wherein head section 24 is axially spaced apart from nozzle 72, confirms that the annular ring 30/groove 32 combination does not tension the insert axially toward the housing.

Further, with respect to claim 7, the Examiner asserted that a fluidic projection (central cylinder 42) is formed as a tube. We disagree. Claim 7 recites that the elastically deformable element is formed as a tube. Central cylinder 42 of head

section 24 is not a tube, rather it is a solid cylinder having a recess 46 adjacent nozzle opening 72 and grooves 54 which communicate between openings in recess 46 and fluid chambers 38 that lie adjacent to central cylinder 42. Moreover, even if the Examiner meant to refer to cylindrical sleeve 36 as being formed as a tube, as discussed above, Applicants submit that cylindrical sleeve 36 is not an elastically deformable element.

In the Office Action, claims 12 and 13 were rejected as being unpatentable over Nørskov in view of Foster and further in view of Harsch. According to the Examiner, neither Nørskov nor Foster disclose the use of a spring as a deformable element, but that Harsch discloses a helical compression spring 35 pressing plug 25 and the conical inside of housing 15.

As presented above, the combination of Nørskov and Foster fails to teach or suggest all the limitations of claim 1. Harsch fails to correct the deficiencies of Nørskov and Foster discussed above. Claims 12 and 13 depend indirectly from claim 1 and contain additional recitations thereto. Thus, for at least the reasons discussed above, Applicants respectfully submit that claims 12 and 13 should be passed to issue.

In the Office Action, claims 11, 12, 14 and 15 were rejected as being unpatentable over Nørskov in view of Foster and further in view of Mains. According to the Examiner, neither Nørskov nor Foster disclose the use of a plate spring as a deformable element, but that Mains discloses a nozzle with a swirl plug 38 held in place by a disk-shaped filter 54 acting as a plate spring.

As presented above, the combination of Nørskov and Foster fails to teach or suggest all the limitations of claim 1. Mains fails to correct the deficiencies of Nørskov and Foster discussed above. Claims 11, 12, 14 and 15 depend indirectly from claim 1 and contain additional recitations thereto. Thus, for at least the reasons discussed above, Applicants respectfully submit that claims 11, 12, 14 and 15 should also be passed to issue.

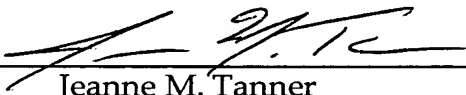
Application No. 10/721,109
Response dated April 13, 2005
Reply to Office Action of January 26, 2005

As Applicants have traversed each and every rejection raised in the Office Action, it is respectfully requested that the Examiner reconsider the rejections and pass claims 1-15 to issue.

Applicant also respectfully requests that the Examiner contact the Applicants' representative at the phone number listed below should the Examiner have any questions regarding the present Response.

Applicants believe that no fees are due. However, if fees are deemed to be necessary, please charge any such fee to Deposit Account No. 13-0235.

Respectfully submitted,

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